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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/597,819

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David K. Roberts

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS

P.O. BOX 3001

BRIARCLIFF MANOR, NY 10510

EXAMINER

SQUIRES, BRETT S

ART UNIT

PAPER NUMBER

2431

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/597,819	Applicant(s) ROBERTS, DAVID K.	
	Examiner BRETT SQUIRES	Art Unit 2431	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 January 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10, 15 and 16 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10, 15 and 16 is/are rejected.
- 7) ☒ Claim(s) 9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 January 2009 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-8, 10, and 15-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Miyahara et al. (US 6,404,926).

Regarding Claim 1:

Miyahara discloses a method of processing an information signal in which a plurality of watermarks are present (“Image Data” See col. 3 lines 6-18, col. 5 lines 5-13, and 42-55), the plurality of watermarks together defining a multi-bit payload (“Accompany Information Signal f for MPEG encoded image data” See fig. 3, col. 3 lines 6-18, 38-47, and col. 4 lines 32-47), the method performs detecting the presence of each of the plurality of watermarks in the information signal (“Watermark Detector” See figs. 2-3 ref. no. 22 and col. 9 lines 40-67), determining the payload represented by the watermarks (See col. 9 lines 61-67), and calculating a measure of confidence in the accuracy of the payload represented by the watermarks (“Evaluation Value” See fig. 4, col. 10 lines 5-67 and col. 11 lines 1-11).

Regarding Claim 2:

Miyahara discloses comparing the measure of confidence (“Evaluation Value” See fig. 4 ref. no. S9) with a threshold confidence value (“Threshold Value” See fig. 4 ref. no. S9) and providing an output based on the comparison with the threshold

Art Unit: 2431

confidence value ("When a value of the absolute value of the differential is larger than the threshold th , it is assumed that the watermark is added and in the step 10 the accompany information signal is turned on." See fig. 4 and col. 11 lines 1-11).

Regarding Claim 3:

Miyahara discloses not determining the payload represented by the plurality of watermarks if the output indicated that the measure of confidence is below the threshold confidence value ("When it is determined that the absolute value of differential is equal to or less than the threshold th , proceeding to the step S11, and the accompany information signal is turned of by assuming that the watermark is not added." See fig. 4 and col. 11 lines 1-15).

Regarding Claim 4:

Miyahara discloses deriving for each watermark a set of correlation results ("Sumi," Sumj," and "Sumn" See fig. 4 ref. no. S8 and col. 10 lines 5-39) by correlating the information signal with one of the watermarks ("Watermark Pattern" See fig. 5 ref. no. S22 and col. 10 lines 5-39) for each of a plurality of relative positions of the information signal with respect to the watermarks ("Watermark Pattern Shifter" See fig. 3 ref. nos. 71-1, 71-2 and col. 9 lines 40-60), and detecting a correlation peak in the set of correlation results for each watermark (See col. 10 lines 62-67 and col. 11 lines 1-8).

Regarding Claim 5:

Miyahara discloses the measure of confidence in the payload is based on the correlation results in the region of the correlation peaks ("Compare the evaluation value and the threshold value" See fig 4 ref. no. S9 and col. 11 lines 1-15).

Art Unit: 2431

Regarding Claim 6:

Miyahara inherently discloses the measure of confidence is related to the total energy of the correlation peaks ("DCT Device" See fig. 1 ref. no. 44 and "IDCT Device" See fig. 2 ref. no. 63 "The DCT Device and IDCT Device are used to compact energy at low frequencies and decompact the energy at low frequencies, accordingly it is inherent that the watermark detector uses energy coefficients to determine correlation peaks.").

Regarding Claim 7:

Miyahara discloses the measure of confidence is related to the shape of the correlation peak ("The height of evaluation values are input into the evaluation value comparator." See fig. 3 ref. no. 33 and col. 11 lines 1-15).

Regarding Claim 8:

Miyahara discloses identifying cluster of correlation results which are likely to represent correlation peaks ("Sumi," Sumj," and "Sumn" See fig. 4 ref. no. S8 and col. 10 lines 5-39) and processing the clusters to identify the cluster that is most likely to represent the true correlation peak (See col. 10 lines 62-67 and col. 11 lines 1-15).

Regarding Claim 10:

Miyahara discloses detecting the presence of watermarks including comparing at least part of the set of correlation results with information about an expected shape of a correlation peak in the results (See fig. 4 ref. no. S9 and col. 10 lines 62-67 and col. 11 lines 1-15).

Regarding Claims 15 and 16:

Miyahara discloses an arrangement for processing an information signal ("Image data" See col. 3 lines 6-18 and col. 9 lines 34-39) in which a plurality of watermarks are present ("MPEG encoded image data" See col. 3 lines 6-18 and col. 5 lines 42-55), the plurality of watermarks together defining a multi-bit payload (See col. 9 lines 61-67), the arrangement has a processor ("Evaluation Value Comparator" See fig. 3 ref. no. 33 and col. 10 lines 62-67 and col. 11 lines 1-15) for detecting the presence of each of the plurality of watermarks in the information signal ("Evaluation Value Calculation Device" See fig. 3 ref. nos. 31-1, 31-2, 31-3 and col. 9 lines 40-67), the processor determining the payload represented by the watermarks ("Evaluation Value Comparator" See fig. 3 ref. no. 33 and col. 9 lines 61-67) and calculating a measure of confidence in the accuracy of the payload represented by the watermarks ("Evaluation Value Comparator" See fig. 3 ref. no. 33 and col. 10 lines 62-67 and col. 11 lines 1-15).

Allowable Subject Matter

3. Claim 9 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

4. Applicant's arguments filed January 7, 2009 have been fully considered but they are not persuasive.

In response to the applicant's argument that Miyahara does not teach embedding a plurality of watermarks in image data and therefore fails to meet the claimed feature of an information signal in which a plurality of watermarks are present, the examiner respectfully disagrees. The examiner respectfully points out that the image data disclosed by Miyahara includes still frames such as JPEG encoded image data and video having multiple frames such as MPEG encoded image data. See col. 3 lines 6-18 and col. 5 lines 42-55. Miyahara further discloses that for MPEG encoded image data a watermark is added to each frame when the accompany information signal f is on. See col. 9 lines 4-9. Accordingly, Miyahara meets the claimed feature of an information signal in which a plurality of watermarks are present through the disclosure of MPEG encoded image data having a plurality of frames and a plurality of watermarks.

In response to the applicant's argument that Miyahara does not teach the claimed feature of the plurality of watermarks together defining a multi-bit payload, the examiner respectfully disagrees. The examiner respectfully points out that Miyahara discloses detecting the single bit accompany information signal f in each frame of image data with the image data being video having multiple frames such as MPEG encoded image data. See col. 3 lines 6-47. Therefore, the bandwidth of the accompany information signal f is limited to a single bit while the payload is limited by the number of frames in the MPEG encoded image data. For example, image data containing 4 four frames can transmit a payload of four bits having one of the following patterns, 0000, 0001, 0010, 0011, 0100, 0101, 0110, 0111, 1000, 1001, 1010, 1011, 1100, 1101, 1110, 1111. Accordingly, Miyahara meets the claimed feature of the plurality of watermarks

Art Unit: 2431

together defining a multi-bit payload through the disclosure of the single bit accompany information signal f in each frame of image data with the image data being video having multiple frames.

In response to the applicant's argument that the evaluation value disclosed by Miyahara does not provide a measure of confidence in the accuracy of the payload represented by the watermarks because the payload is defined by a plurality of watermarks and not a single watermark, the examiner points the applicant to the above stated responses to applicant's arguments regarding the payload being defined by a plurality of watermarks. Further, the examiner respectfully points out that an evaluation value is calculated for each bit of accompany information signal f and therefore satisfies the claimed feature of calculating a measure of confidence in the accuracy of the payload represented by the watermarks. See fig. 4, col. 10 lines 5-67 and col. 11 lines 1-11.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

Art Unit: 2431

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRETT SQUIRES whose telephone number is (571) 272-8021. The examiner can normally be reached on 9:30am - 6:00pm Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on (571) 272-3795. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BS/

/Ayaz R. Sheikh/

Supervisory Patent Examiner, Art Unit 2431

Application/Control Number: 10/597,819
Art Unit: 2431

Page 9